Pump Station S-503
Summary of Hydraulic Design Data

Revisions:
- 21 July 2000 – Added pump station capacity criteria.
- 17 July 2000 – Original submission. Received SFWMD pump mix concurrence.

XY Coordinate[1] – 846990 628750
Location: SE corner of C-11 Impoundment, on C-11 Canal.

Purpose/Operational Intent: Flood Control
- The C-11 Impoundment will supersede S-9 operations of backpumping storm runoff from the Western C-11 basin when storage availability exists within the C-11, C-9 and NLBSA impoundment system.
- Two small pumps (75 cfs and 250 cfs) can be used for seepage control in maintaining the C-11 Canal reach between S-381 and S-13A at 4.0 ft-NGVD or below as measured at S-13A--headwater.

Design Condition:		
	Flood Control	2500 cfs
	Seepage Control	75-325 cfs

Pump Station Capacity Criteria:
- Maintain flood protection of the Western C-11 basin at existing levels that are currently provided by the S-9 pump station. The Western C-11 Critical Project provides a pump station S-9A for seepage collected in the reach between S-9 and critical project spillway S-381. The 2,500-cfs pump capacity provided by S-503 combined with the additional 500 cfs provided by S-9A is greater than the 2880-cfs pump capacity of S-9.

Number of Pumps	5	
Pump Mix Type and Size		
	Diesel	3 @ 750 cfs
	Diesel	1 @ 250 cfs
	Electric	1 @ 75 cfs

Mix Criteria:
- The pump station will have five bays; three identical 750-cfs pumps, a 250 cfs pump that matches two-250 cfs pumps used at S-509 (C-9 Impoundment), and an electric 75 cfs pump.
- The 750 cfs pumps are operated in large events; the 250 cfs pump will be operated in small events, seepage control, and pre-storm drawdowns.
- The pump mix allows for intermediate flow values while having duplicate pumps throughout the system for operation and maintenance considerations.

Control	Manned & Remote by SCADA	
<u>Design Heads (ft.)</u>		
Normal (3.00 HW to 12.00 TW)	9.00	feet
Maximum (0.00 HW to 12.00 TW)	12.0	feet
<u>Intake Water Surface Elevations</u>		
Maximum Non-Pumping	5.00	ft-NGVD
Maximum Pumping	5.00	ft-NGVD
Start Pumping	4.10	ft-NGVD
Normal Drawdown	2.0 to 3.0	ft-NGVD
Minimum Drawdown	0.00	ft-NGVD
Minimum Non-Pumping	0.00	ft-NGVD
Channel Invert	-10.0	ft-NGVD
<u>Discharge Water Surface Elevations</u>		
Maximum Non-Pumping	15.0	ft-NGVD
Maximum Pumping	12.0	ft-NGVD
Normal Pumping	12.0	ft-NGVD
Minimum Pumping	3.50	ft-NGVD
Minimum Non-Pumping	3.50	ft-NGVD
Channel Invert	-1.00	ft-NGVD

Notes:
- [1] XY coordinates system used is NAD 83, Florida east, state plane
- All elevations are in feet, NGVD (National Geodetic Vertical Datum of 1929)
- Diesel generator is required for control station operations and electric pumps in cases of power outage.

Data Compiled from:
- S-9 headwater elevation records from 1957 to present day.
- Selected Plan features.